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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/544,226	02/08/2006	Peter Jaenker	056226.56477US	9843
23911	7590	12/02/2008	EXAMINER	
CROWELL & MORING LLP			DINH, TIEN QUANG	
INTELLECTUAL PROPERTY GROUP				
P.O. BOX 14300			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20044-4300			3644	
			MAIL DATE	DELIVERY MODE
			12/02/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/544,226	JAENKER, PETER	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tien Dinh	3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 07 October 2008.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 12-23 is/are pending in the application.  
 4a) Of the above claim(s) 16-21 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 12-15, 22-23 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/8/06</u> .                                                  | 6) <input type="checkbox"/> Other: _____ .                        |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election of species A (figure 1) in the reply filed on 10/7/08 is acknowledged.

Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 16-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected species B and C, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/7/08.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12-16, 22-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12, line 4, "an outflow region" is not understood. Is this downflow side? Please explain what an outflow region is or what it looks like.

Claim 12, line 5, "the profiled element" lacks antecedent basis.

Claim 12, line 7, "profiled members" lacks antecedent basis. Are these the profiled element?

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-15, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rinn et al 6045096 in view of Jaenker 6043587 or Fard et al 6025975.

Rinn et al teaches a deformable aerodynamic member with a front profile area 32, rear profile area (near where 44 is pointing to), and shells 20 disposed on the pressure side and the suction side which converge in a rear profile edge 46 and made out of composite materials. Rinn et al is silent on the use of d33 piezo actuators used on the deformable aerodynamic member to move or change its shape.

However, Jaenker teaches that d33 piezo actuators are used to actuate a member is well known. See figures 1 and 2. See column 4, lines 15-23 and lines 56-63. See also column 5, lines 7-15. Fard et al teaches d33 piezo actuators in figure 1.

It would have been obvious to one skilled in the art at the time the invention was made to have used d33 piezo actuators (both on the pressure side and the suction side) in Rinn et al's system as taught by Jaenker or Fard et al to change the shape of his deformable aerodynamic member to control the aerodynamic airflow around it for more control and fuel efficiency.

Re claim 14, Jaenker teaches integration of the piezo actuator into an element it is controlling so this would lead one skilled in the art to integrate the actuators into the shells.

Re claim 23, the piezo actuators are lamina of d33 piezoelectric material and electrically conducting material arranged in a stacking direction. See Jaenker figures 1 and 2 and Fard et al

figures 1-5. The examiner believes they are alternating lamina but will take official notice also that this is well known and one skilled in the art would have used such arrangements for better control of the piezo actuator.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tien Dinh whose telephone number is 571-272-6899. The examiner can normally be reached on 12-8.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mansen can be reached on 571-272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tien Dinh/  
Primary Examiner, Art Unit 3644